

REMARKS

This is intended as a full and complete response to the Office Action dated November 30, 2009, having a shortened statutory period for response set to expire on March 1, 2010. Claims 1, 5, 8, 18, 28-30 and 82 have been amended to more clearly recite certain aspects of the invention. No new matter has been introduced by the amendments presented herein. The amendments have been made in a good faith effort to advance prosecution on the merits. Claim 27 has been cancelled without prejudice. Applicants reserve the right to subsequently take up prosecution of the claims as originally filed in this application in a continuation, a continuation-in-part and/or a divisional application. Please reconsider the claims pending in the application for reasons discussed below.

Applicants thank the Examiner for considering the previous arguments and amendments filed September 10, 2009 as having overcome the previous rejections.

Claims 1-2, 8-9, 12-16, 18-19, 21, 25-26 and 82-83 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 5,532,975 ("Elholm"). Claims 1 and 82 have been amended to now include "an acoustical transducer and receiver coupled to the source array; and a controller for adjusting the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver." Support for the amendments may be found throughout the specification, including page 4, lines 8-11 and was previously recited in claim 27. Applicants respectfully submit that Elholm does not teach this limitation.

Elholm is generally directed at a positioning device for seismic equipment that is equipped with a body part, wings and rudders and is towed by a seismic vessel. (See Elholm, Abstract). With regard to claim 27, the Examiner admits that Elholm does not teach a controller that adjusts the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver, as recited in claims 1 and 82. (See office action, page 8, lines 11-13). The Examiner attempts to supplement this missing limitation with U.S. Patent No. 4,890,568 ("Dolengowski"). Dolengowski is generally directed at a remotely controllable tail buoy for use in marine geophysical prospecting operations. (See Dolengowski, Abstract). The relevant portion of Dolengowski is provided below for the Examiner's convenience.

The present invention is a remotely controllable tail buoy that may be directed from a remote location such as from a towing vessel **to prevent damage to the tail buoys, hooking of the tail buoys or tangling of the ropes when one or more streamers are being towed by the towing vessel.** Additionally, the inventive tail buoy may be used when towing one or more streamers to direct the trailing ends of the streamers away from offshore structures or other obstructions which could damage the streamers.

In a preferred embodiment, the tail buoy is provided with two or more rudders, a steering mechanism and a communication system. The rudders are adapted to rotate substantially simultaneously about generally vertical axes to control the course of the tail buoy. The rotation of the rudders are controlled by the steering mechanism and the communication system. The steering mechanism controls the rudder position based on signals received by the communication system from a remote transmitter on the vessel. The communication system includes a two-way radio receiver tuned to the same frequency as the remote transmitter for receiving radio signals emitted from the remote transmitter. The signals are processed by a remote controller which is preferably a microprocessor-based controller and data acquisition system. The processed signals control the steering mechanism which includes a hydraulic pump. The pump directs flow to a hydraulic cylinder causing the rudders to turn. Then, as the vessel continues to move, the tail buoy will travel toward the direction that the rudders are turned thereby avoiding other tail buoys or offshore structures.

The tail buoy design preferably includes a single tubular float and an anti-roll weight. The tubular float provides all necessary buoyancy for the tail buoy while the anti-roll weight keeps the buoy in an upright or vertical position. This design lessens the probability that the tail buoys will hook if one buoy floats into another's path.

The steerable tail buoy of the present invention may include **additional peripheral equipment such as rudder position sensors, relative positioning instrumentation and navigational instrumentation.** The navigational instrumentation may be acoustic based, radio based or optical based instrumentation. Data from these sensors and instruments may be continuously transmitted to the vessel and fed into a computer located on board the vessel. **The computer would continuously monitor the precise location of the tail buoy and initiate any necessary actions to adjust the course of the tail buoy.**

(Dolengowski, column 2, line 60 to column 3, line 42, Emphasis Added).

As shown above, Dolengowski does not teach a controller that adjusts the deflector device to **steer clear of an obstruction**, as recited in claims 1 and 82. Although

Dolengowski teaches initiating actions (i.e., steer) to adjust the course of a tail buoy to prevent damage to the tail buoys, hooking of the tail buoys or tangling of the ropes, Dolengowski does not teach how the damage to its tail buoys, the hooking of its tail buoys or the tangling of its ropes are prevented. Applicants believe that the Examiner assumes that Dolengowski prevents these problems by steering clear of an obstruction, but Dolengowski never mentions steering clear of an obstruction anywhere in its disclosure.

Further, Dolengowski does not teach **an obstruction located by the acoustical transducer and receiver**, as recited in claims 1 and 82. In contrast, Dolengowski merely teaches **peripheral equipment to monitor the precise location of the tail buoy**. In this manner, Dolengowski's **peripheral equipment does not locate obstructions**. In fact, Dolengowski never mentions locating an obstruction using the acoustical transducer and receiver anywhere in its disclosure. Since Dolengowski does not teach locating an obstruction using the acoustical transducer and receiver, Dolengowski cannot teach steering clear of the obstruction, as recited in claims 1 and 82.

For these reasons claims 1 and 82 are patentable over Elholm and Dolengowski. Claims 2, 8-9, 12-16, 18-19, 21, 25-26 and 83 are also patentable over Elholm and Dolengowski since they depend from claim 1. Withdrawal of the rejection is respectfully requested.

Claims 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Elholm in view of U.S. Patent No. 5,319,609 ("Regnault"). Neither Elholm nor Regnault, alone or in combination, teaches or discloses a controller that adjusts the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver, as recited in claim 1. Since claims 5-7 depend from claim 1 and since neither Elholm nor Regnault, alone or in combination, teaches, discloses or suggests all the limitations of claim 1, claims 5-7 are therefore also patentable over Elholm and Regnault. Withdrawal of the rejection is respectfully requested.

Claims 20 and 22-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Elholm in view of U.S. Patent No. 4,729,333 ("Kirby"). Neither Elholm nor Kirby, alone or in combination, teaches or discloses a controller that adjusts

the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver, as recited in claim 1. Since claims 20 and 22-23 depend from claim 1 and since neither Elholm nor Kirby, alone or in combination, teaches, discloses or suggests all the limitations of claim 1, claims 20 and 22-23 are therefore also patentable over Elholm and Kirby. Withdrawal of the rejection is respectfully requested.

Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Elholm in view of Kirby and further in view of U.S. Patent No. 4,719,987 ("George"). Neither Elholm nor Kirby nor George, alone or in combination, teaches or discloses a controller that adjusts the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver, as recited in claim 1. Since claim 24 depends from claim 1 and since neither Elholm nor Kirby nor George, alone or in combination, teaches, discloses or suggests all the limitations of claim 1, claim 24 is therefore also patentable over Elholm, Kirby and George. Withdrawal of the rejection is respectfully requested.

Claims 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Elholm in view of U.S. Patent No. 4,890,568 ("Dolengowski"). Claim 27 has been canceled without prejudice thereby rendering the rejection with regard to that claim moot. As mentioned above, neither Elholm nor Dolengowski, alone or in combination, teaches or discloses a controller that adjusts the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver, as recited in claim 1. Since claims 28-30 depend from claim 1 and since neither Elholm nor Dolengowski, alone or in combination, teaches, discloses or suggests all the limitations of claim 1, claims 28-30 are therefore also patentable over Elholm and Dolengowski. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

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